23: Franck--331 [2] T-2 (1924) 1926 Laotians
116, 262, 411, 415, 482 Ethnic subgroup

"These fellows [EJ: Kha] carried a slim ration of glutinous rice in little round baskets with a telescope cover, and some uncooked rice in a cloth at the back of the waist, just as do some South American Indians. At their sides hung a kind of machete, in a sheath made of half bamboo with wooden strips across it, much the sort of thing a Boy Scout turned loose in the woods might contrive. They were as small as upper grammar-school boys, and though they looked hardier than almost any tame people, they were really even less useful as carriers than the Pwun. They prefer to carry by a band across the forehead, but as my baggage was not arranged for that method most of them were forced to endure one end of the stiff whole-bamboo that takes the place of the wiser springy split-bamboo or hickory carrying-poles of the Chinese--because one of them alone cannot carry a real load. Yet on the whole the long file of silent, rather anemic fellows made better time, thanks perhaps to their lighter loads, than those of the day before."

23: Franck--343 [2] T-2 (1924) 1926 Laotians
116, 243, 252, 415

"They hull their rice as it is needed, by stepping on the end of a long pole ending in a big wooden pestle, which falls monotonously into a wooden mortar, a hollowed section of large tree-trunk. These seem to be the chief occupations, but there are many others, as the traveler with time to watch their goings and comings during a few evenings will discover. As in southern China, the pan-basket in which rice is screened and prepared for cooking is made of bamboo splints, but they use clean water rather than any filth in which to wash it."

they at least preserved their individuality and the prerogatives of 648*
their government. 175*

/98/ Xieng-Khouang, the capital, was then a large and beauti- 633
ful city whose numerous inhabitants were protected by an enclosure 175*
of deep moats and by forts which crowned the surrounding hillocks. 172
The immense stone jars scattered pell-mell over its plain in the
time when the Khas dominated the region (1) and "the wealth of

1. Legend has it that these jars were constructed by the aboriginal Khas. For what purpose? -- A mystery. They may originally have been storehouses which served to shelter provisions on a road which has been frequented in all periods by migrating peoples. Perhaps rather they were designed to collect rainwater. Perhaps, finally, these monumental vases were simply mausoleums in which offerings were piled up to the shades of the dead. /415/

its sixty-two pagodas and of its shining Thats whose sides concealed treasures" had given it a renown which went far abroad.

Friendly relations were therefore resumed, as in the past, be- 648*
tween the two States. Lan-Xang was again preparing to live in 643*
peace in its rediscovered autonomy when Nokeo-Koumane died 175*
while still very young and without leaving any survivors, in 1596
after a five years' reign.

THAMMIKARATH (1582), KING 1596-1622.

New disorders were to be feared, /99/ /Page 99 is devoted to 643*
an illustration: "Tran-Ninh. The Plain of the Jars. "--Translator/ 175*
/100/ and new competitions for the throne. Such was not the case,
for the moment, thanks to the authority of Vongsa, a cousin by
marriage of the dead king, who although was only fourteen years
old was able to rally the suffrage of the court to his name. His
mother was a sister of Setthathirath's last wife. The dynastic link
was thus rather tenuous and the local chronicles do not fail to point
out that on this date the power passed to the "junior" branch of the
Khoun-Lo succession.

Vongsa reigned under the name of Thammikarath. In 1598 a 557
son Oupagnouvarath was born to him, who had scarcely reached 643*
man's age when he developed a keen interest in the administration 175*
of his country. By virtue of his intelligence and his precocious
maturity of mind he soon acquired a genuine popularity both among

115: Le Boulanger--65 H-4 (no date) 1931 AM1 Indochina
(1300-1700) Laotians AM8

172
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Fig. 7 Tran-Ninh. The Plain of the Jars.

(Facing p. 98)

149: Reinach--247 G-3 (no date) 1901 AM1 Indochina
Laotians AM8

"What makes everything easy and is used for everything is this hollow wood, at once so solid and so light, the incomparable bamboo. In France we see it only in the form of pleasant but useless little articles of furniture. Here bamboo is sufficient to every task. It provides the whole house, frame as well as walls. The inner walls and floors are made of matted bamboo lathwork. Yet such a house, with its furniture, bed, tables, various accessories and its luxury objects, if you are a person of refinement, can be improvised for you in a space of two hours wherever you want.

"Has a bridge been washed out? In two hours, thanks to this wood which is easy to manage and to work, men will have made a new bridge. One is especially struck, at the beginning of this life which is so free and, more than any other, independent of men and things, by the great simplicity and ingenuity of all the procedures. Objects are rudimentary but practical, easy to make, soon ready and simple to repair. Everyone knows how to build ordinary furnishings, and no interruptions are caused here as they are when even the slightest damage occurs to one of our highly developed utensils, which only a specialist knows how to repair.

"A bamboo tube is a safe place for your maps and papers. It is a drinking glass, and it is also a pipe for smokers. On a larger scale, it is a bucket for carrying water, and the receptacle for all liquid and solid provisions. When provided with a handle it serves as a pot for the Laotians to cook their rice in, or to prepare syrup from the sugar palm. When torn into thongs it is used as rope and string. Ligatures of sapeks are threaded on kelates, or bamboo filaments, and this is what makes our new Indo-Chinese sou, with its round hole in the middle, so impractical. Those who preside over the striking of our coins are unaware that the kelate is square, a fact which the first comer from the interior could have told them. Baskets of all kinds are made with these same kelates for holding and transporting material. Hats are also made of them to provide shelter from the sun and rain. At night, when the stage of your journey is too long and you have to continue after nightfall even at the risk of meeting a tiger, setting fire to a bamboo branch is enough to frighten any off and to light your way. And not only is bamboo used to make torches, hats, string, dishes, furniture, houses and bridges, but it also serves as animal fodder and even as food for the natives, who eat the tenderest shoots as we would eat asparagus.

249 either in the natural state or in the form of black, pasty, molasses-laden sugar.

There are several varieties, the chief of which are the heavy, green cane which is highly cellulated, and the small violet-colored cane with joints closer together, which is fuller than the first.

Farming methods do not differ from those used in other countries. Cuttings are planted, and the plants are topped if they show a marked propensity to excessive leafy growth.

257 To manufacture sugar, the cane is crushed between two vertical
407 cylinders driven by two wooden gears of a most ingenious construction. A buffalo turns the whole by means of a crossbar or shafft, the end of which is attached to its neck and constitutes a whim. Sometimes the cane is crushed between two pieces of stone or hardwood, one of which rests on the ground while the other [364] is applied on top of it by means of a wooden lever. One or several persons work the other end of the lever with all their weight and move it up and down in a series of
[439 jerky motions. The juice extracted from the cane is placed in large
415] cast iron cauldrons shaped like cupels, which are imported by Chinese merchants. Condensation takes place over an open fire laid in primitive hearths which are cut into the ground itself, if it is clayey. When the syrup reaches the desired degree of thickness the whole mass is poured into rectangular or circular molds made of wood or bamboo. After cooling the loaves of sugar which come from the molds, and which are from three to six centimeters thick, are wrapped in dry leaves. They are transported and sold in this form. The cane itself is called "Oi" and the sugar "Nam-Oi" or, literally, water of cane.

[276 The Laotians do not refine alcohol from the juice of sugar cane,
101] and are even ignorant of the initial refining stage which the Annamites use and which produces brown sugar.

[435] The price of sugar on the markets of Laos varies from one point to another, and transactions involve small quantities only. Statistics do give evidence, however, from which market prices of 35 to 50 francs per hundred kilograms can be deduced.

249 INDIGO. We have seen above that the Laotians use the indigo-bearing properties of certain plants which grow wild in the forests in order to dye cloth goods blue. They also produce a variety of indigo, the Indigofera tinctoria, which is similar to the variety found in Bengal. The plant itself is called "Kok-Kame" and the extract or dye "Nam-Kame

326 bracelets, necklaces, rings, long neck chains and chignon chains,
306 hairpins, buckles, buttons, earrings, etc., either of gold or of silver.

The purity of the metals used in this work varies widely, and is usually left to the choice of the person who commissions the work. In some cases gold is left free of any alloy, while often a fourth part of silver is used and sometimes even more.

Silver taken from coins is left as pure as it was originally, or else its purity is decreased by alloying it with copper and tin.

The precious stones used in jewelry include sapphires, rubies, quartz, crystal, onyx, glass and even basalts. Cutting facets on gems is unknown in Laos, and only cabochon cutting, which may be more or less regular, is practiced.

326 Ironmongery. The blacksmiths of Laos are quite skillful. Their extremely scant equipment includes a double-action bellows, one or two pairs of tongs, two or three hammers, a hot set and a small anvil. They use only wood charcoal.

By taking plenty of time they are nevertheless able, using bars of soft iron imported from Europe, deadheads, and "Duongs" which come from the high primitive furnaces [457] of the Koui region, to forge various tools and utensils such as machetes, swords, knives, scissors, spades, bits, elephant halters, carnac hooks, etc.

Each blacksmith has his own specialty. With the help of routinism and by virtue of constant repetition of the same forms, these artisans manage to acquire a real skill and to utilize every last scrap of iron. It should also be noted that iron is very expensive. It costs from 30 to 70 francs per hundred kilograms in Laos, and sometimes as much as 90 or even 110 francs.

A certain number of articles, such as plowshares, spade irons, axes, etc. are imported from China and Siam.

323 Pottery. The pottery industry is very active, and in spite
415 of the many imported pots made of wrought, enamel or cast iron or copper, the industry still makes a large number of pots and vases of every size and shape which are destined for various uses.

The potters of Laos produce glazed jars which serve as receptacles for alcohol and water, water coolers, flower vases, drinking mugs, oil lamps, cuspidors, smooth and rough mortars, tiles, brick, drains, [439] ornamental modillions, etc. The products of this industry are mainly destined for local consumption. Some of them, however, also find markets in nearby countries.

323 The potters' methods and equipment do not differ from those which are in widespread use everywhere.

The method of firing depends on the nature of the article, and firing may be done either in kilns dug out of the clay soil, in the banks of watercourses, or under stacks of rice straw. Wood or rice straw is used to fire the kilns.

In some regions articles are given a shiny black patina resembling graphite by firing them for a second time in paddy husks.

326 778 411 415 Brass-founding. One has only to explore the pagodas of Laos in order to realize that brass-founding used to be held in honor. Religious statues can be found which are sometimes of great [458] weight and usually of quite fine workmanship and taste, taking into account, to be sure, the quite special manner in which they conceive esthetics.

Although the crucibles have not been fired for many long years for casting such large pieces, the industry of brass-founding continues to be exercised by a certain number of specialists who are content with producing religious statuettes, necessities for betel, bells for elephants and livestock, various kinds of vases, cuspidors, etc.

This industry is an extremely ancient one in the land. It was certainly practiced during the Bronze Age, as is attested by the spear-heads, daggers, hatchets and halberds which have been found in northern Laos and which can now be seen in the Saint-Germain museum.

[821 172] It is interesting to note that the inhabitants of Laos attribute a meteoric origin to objects of the Bronze Age, as also to those of the Age of Polished Stone. They believe that these objects fall from the sky when it thunders, and that they are produced by lightning.

The following are some of the methods used by Laotian founders. Casting is always done by the lost wax process.

325 532 Casting statues. On an initial rough clay model, the artist applies a layer of fine, soft and well-pugged clay which he shapes in a more careful manner. Then after covering the statue, which is already much more than a rough draft, with a layer of bees-wax of the proper thickness, he finishes modeling the statue on the wax, inserting all the details and all the ornaments which it is to include. Polishing a bit here, engraving there, setting precious stones or simply glass between the eyelids to represent eyes, and inserting gold lips where the mouth is to be located, he gives the

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325 model the appearance which it will have when cast.
[323] On this wax surface a very thin layer is first overlaid of clay which is finely pugged, well diluted with water and quite similar in appearance and consistency to the kaolin from which utensils of thin porcelain are molded. When this [459] [Illustration] [460] [Blank page] [461] first layer is dry, a second is applied which is made up of coarser clay, then a third which is still thicker. Finally, when the whole is no more than a mass which has the vague shape of the original model, a good thickness of fire clay which has been kneaded together with chopped straw, buffalo dung and paddy husks is applied by hand. The mold is then ready for pouring as soon as the outer layer dries.

At certain carefully chosen points in the less conspicuous parts of the model, wax plugs have been inserted at the correct angle through the different layers of clay so that they come out to the surface. Some of these will be vent holes to give passage to the vapors which will be emitted when the statue is cast, and the others are the spouts through which the molten metal will be poured from the crucibles.

The mold has been prepared in an excavation in the ground which is as deep as the statue is tall. When everything is ready, the excavation is filled with dry sand which is well tamped down. Finally the crucibles are arranged all around the mold, in greater or less numbers depending on the size of the object to be cast. Each of these has a bellows and sometimes two so as to be prepared for accidents, to hasten melting and to obtain perfect equality of fluidity and heat in the metal in all the crucibles.

When the time comes the metal is poured into all the spouts at once, and if the mold does not burst because of excess humidity, the bronze soon replaces the wax inside the walls of the mold. It is allowed to cool, then the mold is removed. If the operation is successful the statue then appears, smooth and pure and perfectly identical with the wax model. Only the junction points of the spouts and vent holes need any retouching, but the main parts usually come out admirably well.

325 Casting various utensils. Small utensils are cast in
415 just the same way, except that the crucible containing the molten metal is connected to the mold and packed in a common covering--a mixture of buffalo dung, chopped straw and paddy husks. Between the mold and the crucible two small lateral openings have been carefully made, the purpose of which is both to allow vapors to escape and to permit judging the degree of fusion of the metal.

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When thus prepared the mold and the crucible, which form a single block, are placed on the furnace with the crucible undermost, amidst the charcoal which is given a forced draft with an alternating bellows. What happens then cannot be imagined. The wax melts with the first heat and falls into the crucible, leaving a void between the two walls of the mold which the metal will fill. As soon as the latter is ready, as can be seen by the color of the flames which come out through the lateral openings, the founder seizes the block with a pair of tongs and turns it upside down suddenly so as to pour the contents of the crucible automatically into the cavity of the mold. After the metal has cooled the clay envelope is broken like an egg shell, and the object appears with the shape and relief or chased ornaments which the wax model possessed.

The founders use various alloys, depending on whether the objects which they are making are statues, common utensils or bells. Some are made of brass, zinc and tin, others of red copper, silver and bronze from old gongs, etc. Sometimes, when the statue is a religious one, the faithful are impelled by their ardor to throw gold and silver jewelry and coins into the crucible.

[778]

The principal pieces of equipment of the founder are the bellows, crucibles, tongs, a series of sculptor's boasters, an alternating turn-bench, graving tools, scrapers, hammers, etc.

285

Basketry. The inhabitants of Laos, especially the Khas, are past masters in the art of basketry, and the objects which come from their hands have a finish, a delicacy, a seal of elegance and a purity of form which are surprising at first sight.

Rattan, certain kinds of bark and thin skins and strips of bamboo are the materials used in basketry.

The main articles produced by this industry include floor mats, bed mats, calibrated baskets for measuring grain, buckets for drawing water, large baskets, baskets for holding cooked rice, platter covers, trays with feet, boxes for betel necessities, baskets to carry on the back, bird cages, hats, etc.

[463] Most basketwork articles are delivered unfinished, although some are smoked or else lacquered black or red. Except for a few articles which find a market outside of the region of manufacture, but always within the limits of Laos, it may be said that the basketwork industry is an entirely local one.

The Khas, moreover, do not have a monopoly in this industry, and all the inhabitants of Laos are basket makers to a greater or less degree.